

Economics in Fisheries Management

LPWM2005 Fisheries Management

Dr Colin Hunt

Honorary Fellow in Economics

The University of Queensland

Lecture 4. *Economic impacts on fishing and related businesses of declaration of MPAs and of coastal development, and issues in compensation*
(PowerPoint)

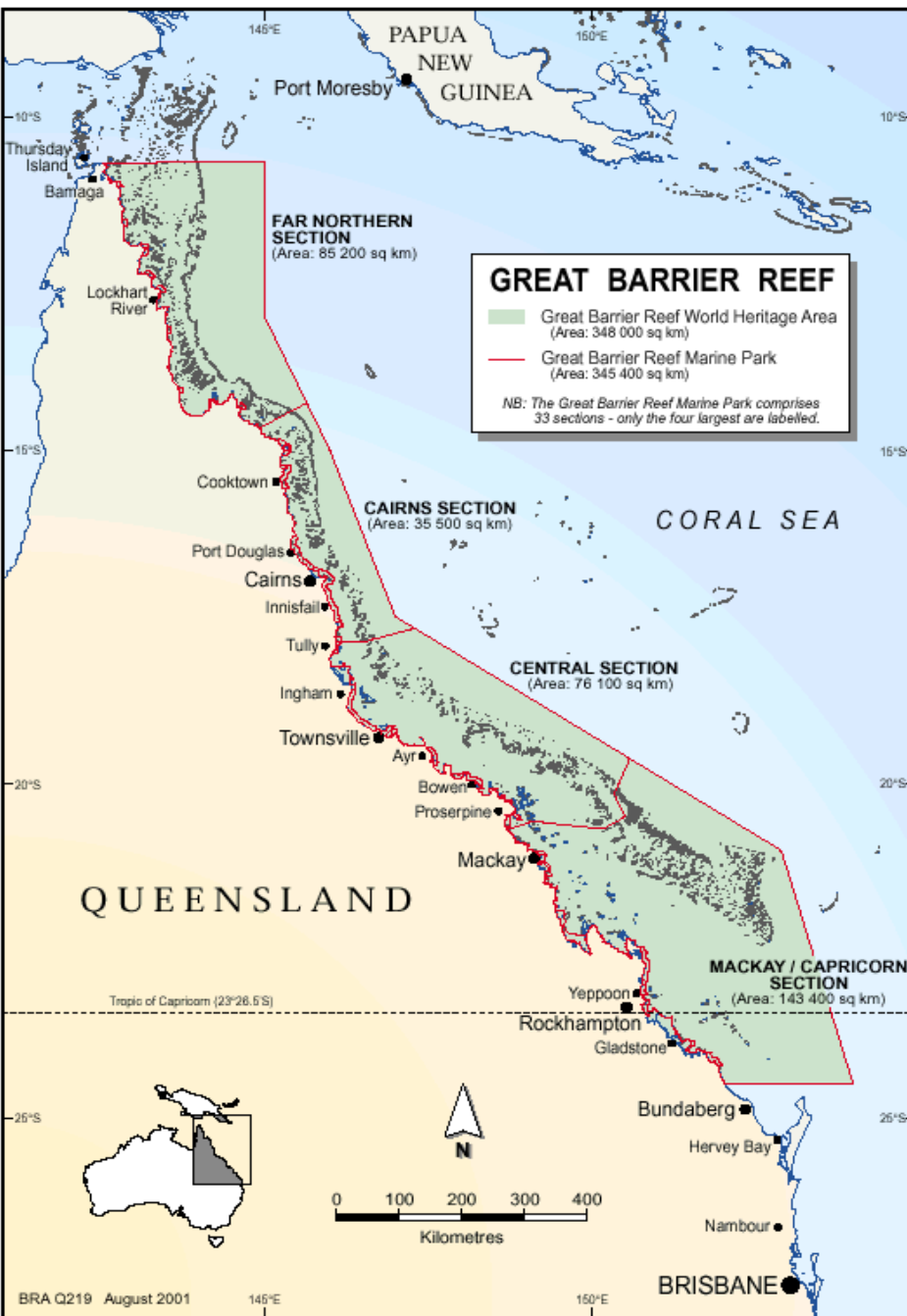
The University of Queensland, 12 August 2011

Accessing Notes to slides in pdf

1. Go to left hand bar, click on the 'Layers' icon (third from top);
2. Activate the 'Presentation notes' box;
3. To read Note, put cursor over 'speech' icon when it appears in top left corner of the slide.

3 Case Studies

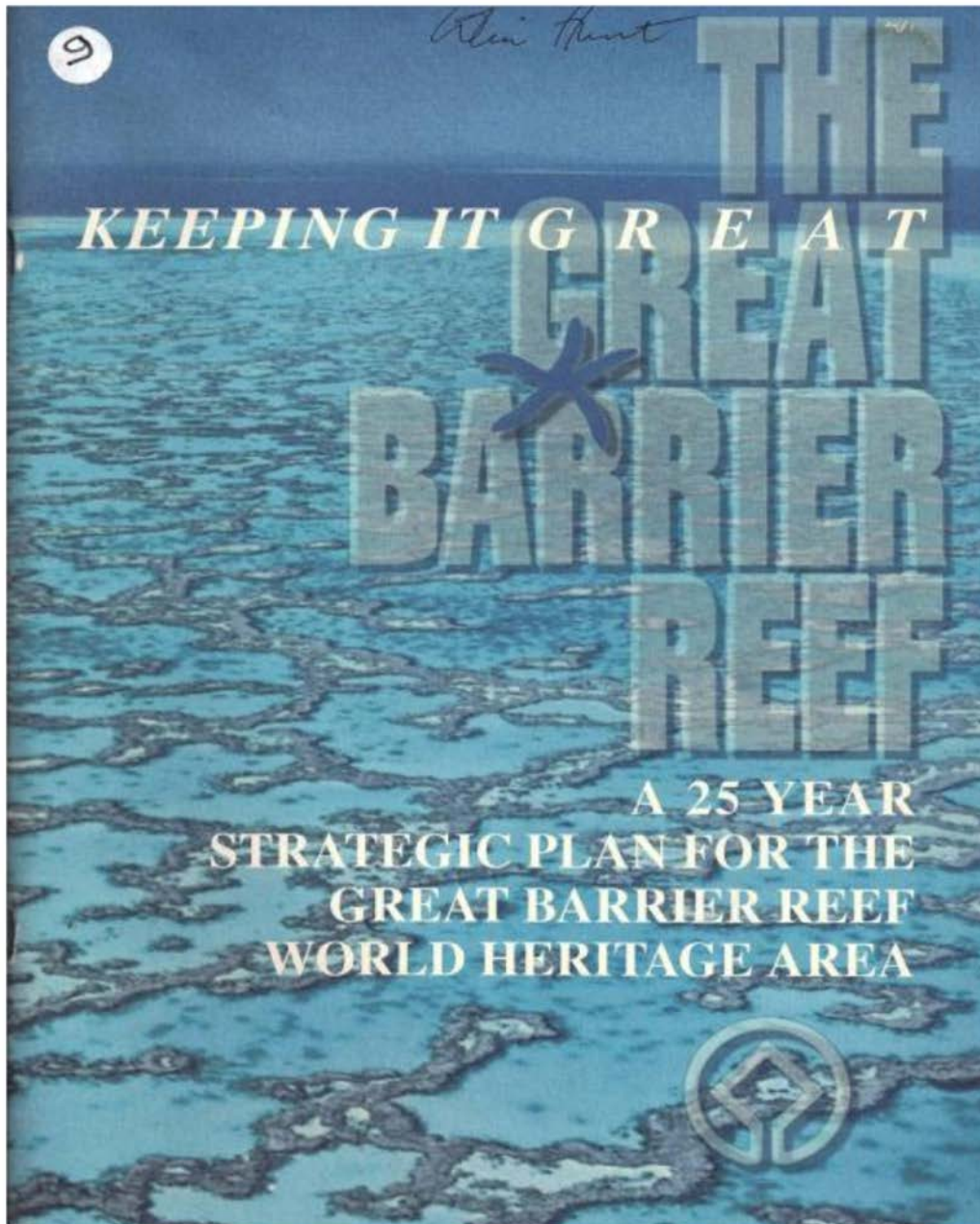
- Great Barrier Reef rezoning
- Coral Sea Marine Reserve creation
- Gladstone Harbour development



CASE STUDY 1

ECONOMIC IMPACTS OF CREATING AND EXTENDING MARINE PROTECTED AREAS:

REZONING THE GREAT BARRIER REEF MARINE PARK

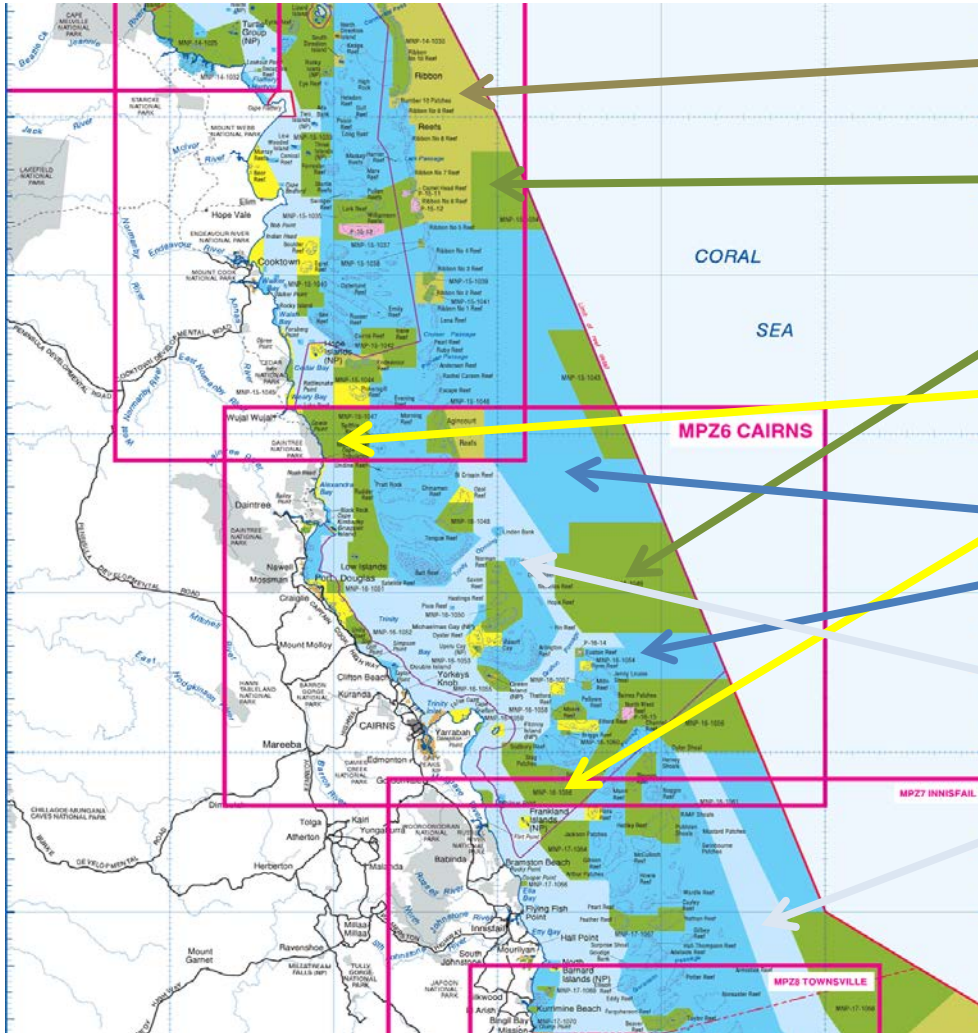


Among the strategic plan's objectives was to address the adequacy of the proportion of the Great Barrier Reef World Heritage Area in which impacts are constrained

The Representative Area Program (RAP) 2004 for GBRMP

- “No take” zones 4% before 30 June 2004
- “No take” zones 33% after RAP, 30 June 2004

GBRMP Zoning after 2004



Buffer Zone – “No Take Zone”

National Park Zone – “No Take Zone”

Conservation Park Zone – Rec Fishing

Habitat protection Zone – some fishing

General Use Zone - fishing and trawling

Impacts of the RAP

- Fishing Industry
- Dependent land-based Industries



Commonwealth action

Commonwealth came under attack from politicians and fishing industry

Commonwealth commissions research on impacts of RAP, particularly on land-based businesses.



Policies developed

Fishing and land-based businesses can apply for assistance - restructuring or exit

Assistance is based on impact on individual businesses

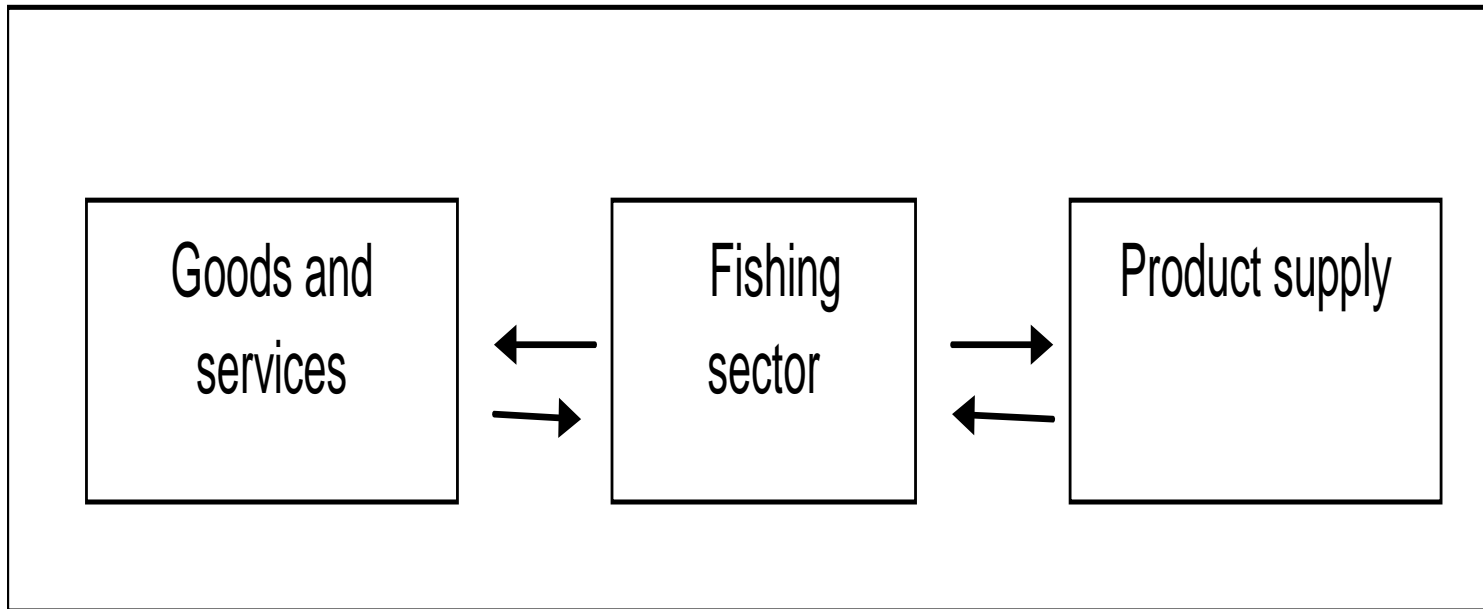
Key indicator of RAP Impacts on a Fishery and Land-based businesses

Gross value of production (GVP)

GVP impacts of the RAP on all GBRMP fisheries, annual, \$ and %

GVP and impacts	Line	Trawl	Inshore net	Mud and blue swimmer crab	TOTAL \$
GVP \$m 2002/2003	78	118	12.8	9.5	218.3
Impact Max %	-26.5	-12.4	-32.5	-34.0	
GVP impact Max \$m	-20.6	-14.6	-4.26	-3.2	-42.7

Impacts of the RAP on Land-based Industry



Forward and backward linkages to the fishing industry

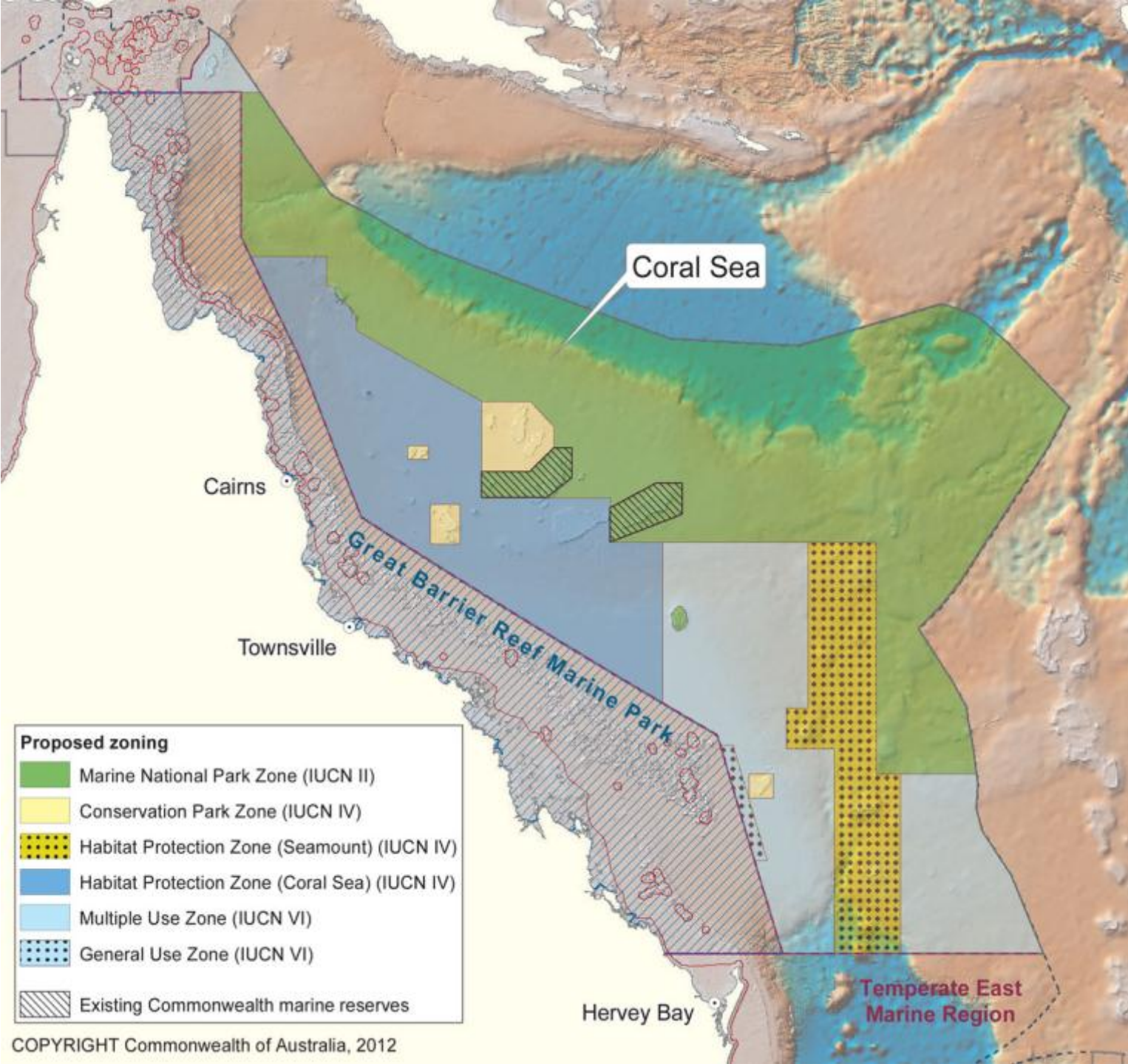
Vulnerability of Land-based Businesses

Businesses that specialise in:

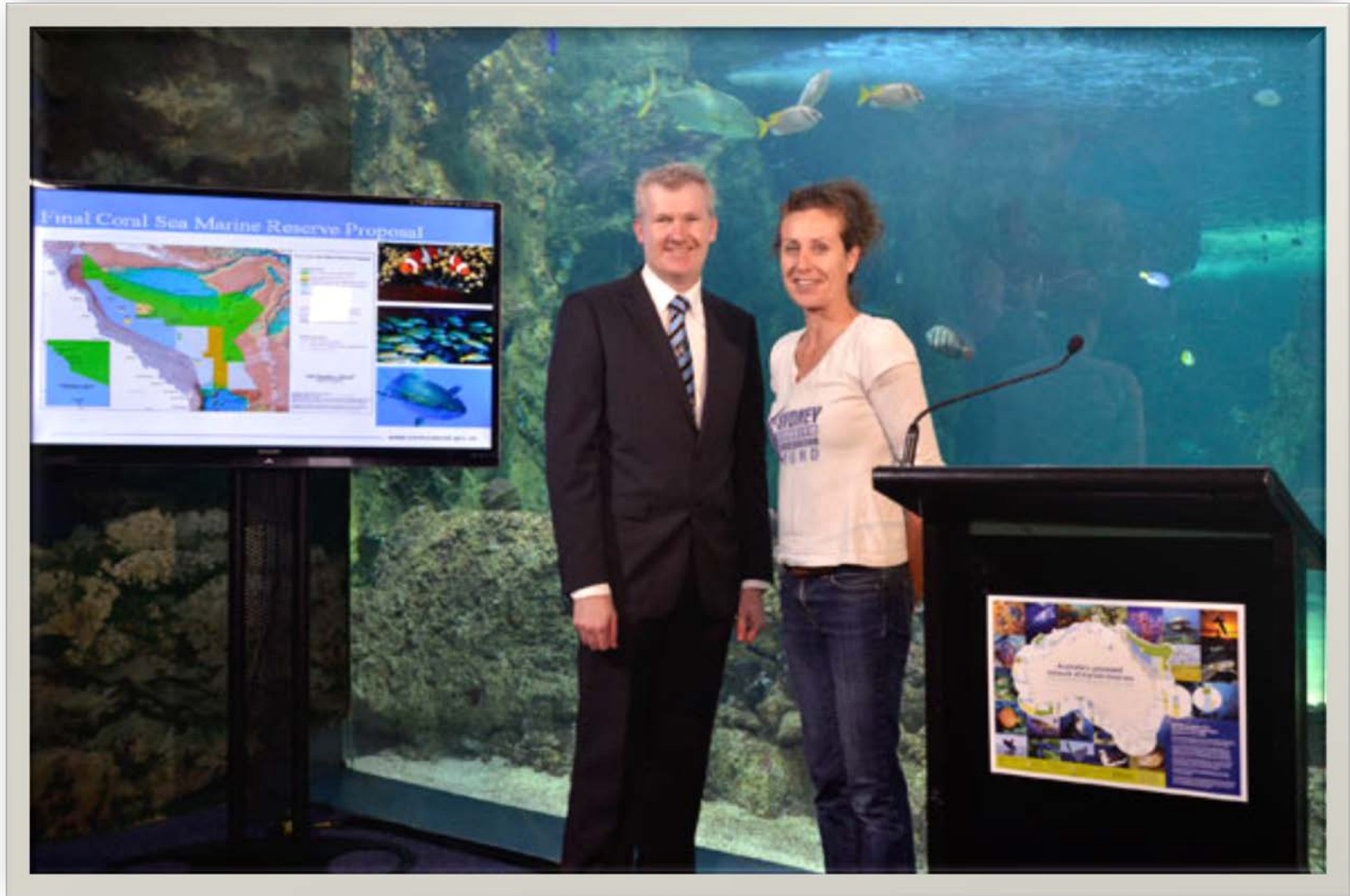
- receiving, handling, processing and transporting product;
- supplying goods and services;
- supplying capital items.

CASE STUDY 2

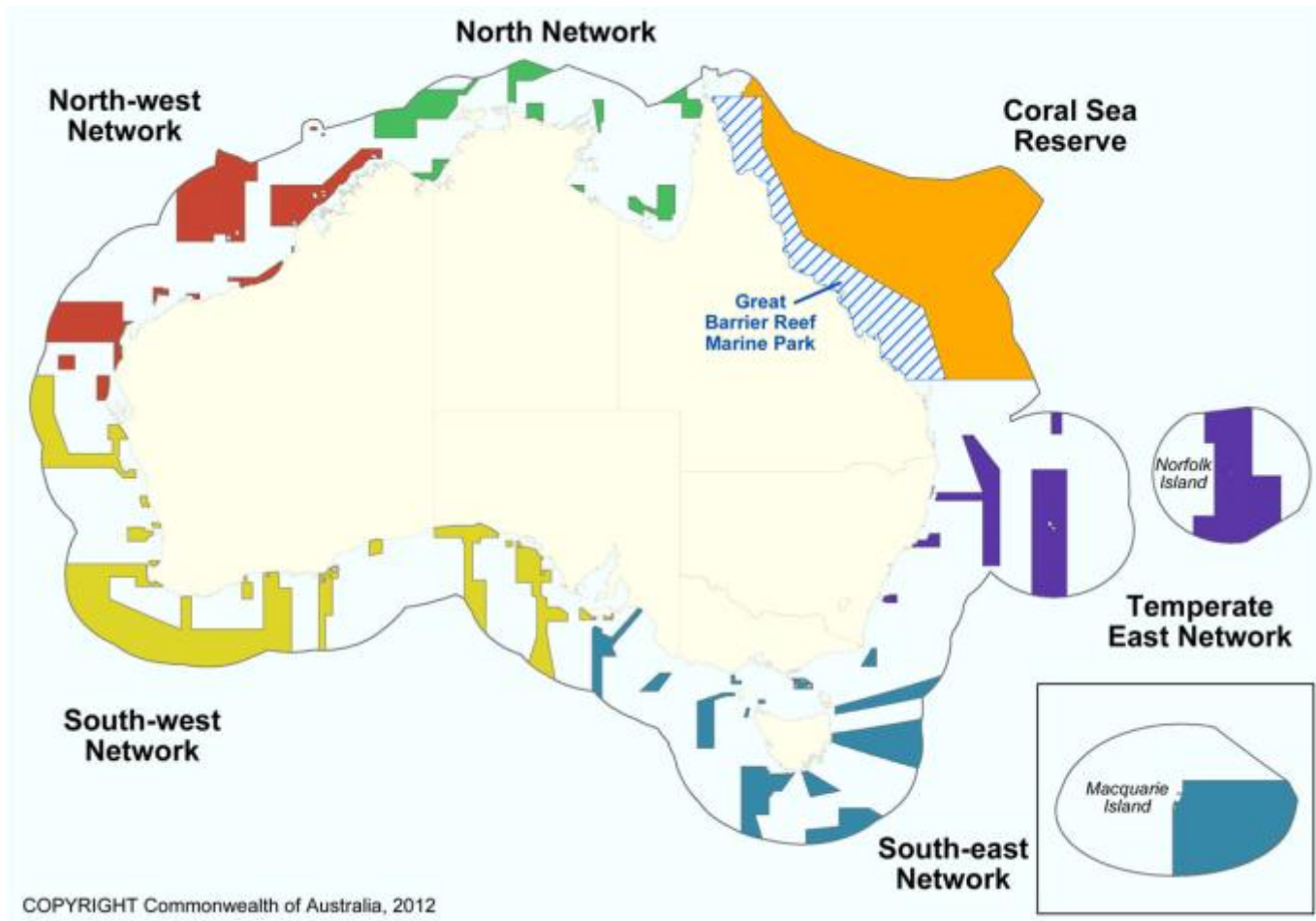
ECONOMIC IMPACTS OF CREATING THE CORAL SEA MARINE RESERVE



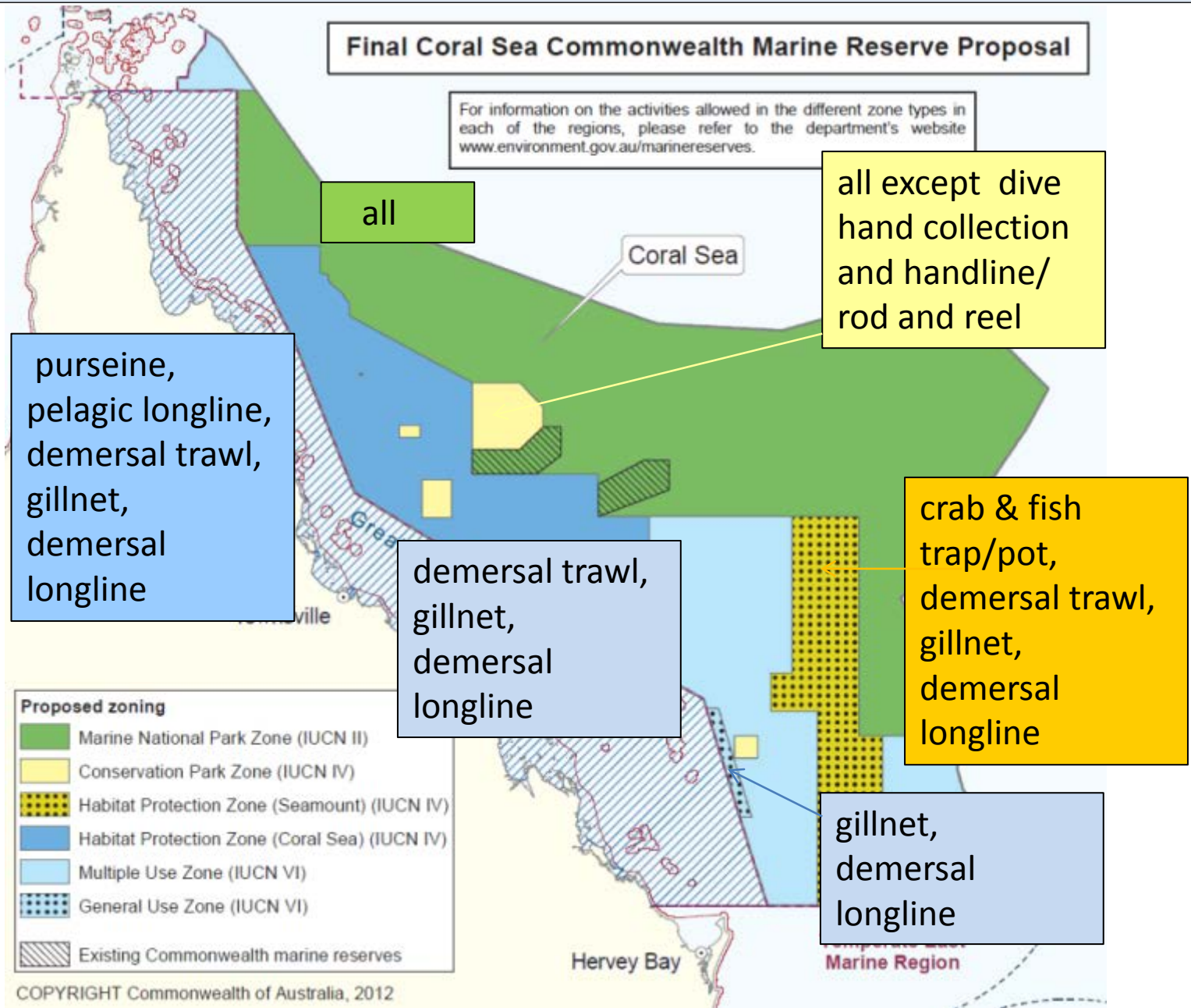
Minister Tony Burke



Proposed Commonwealth Marine Reserves Network



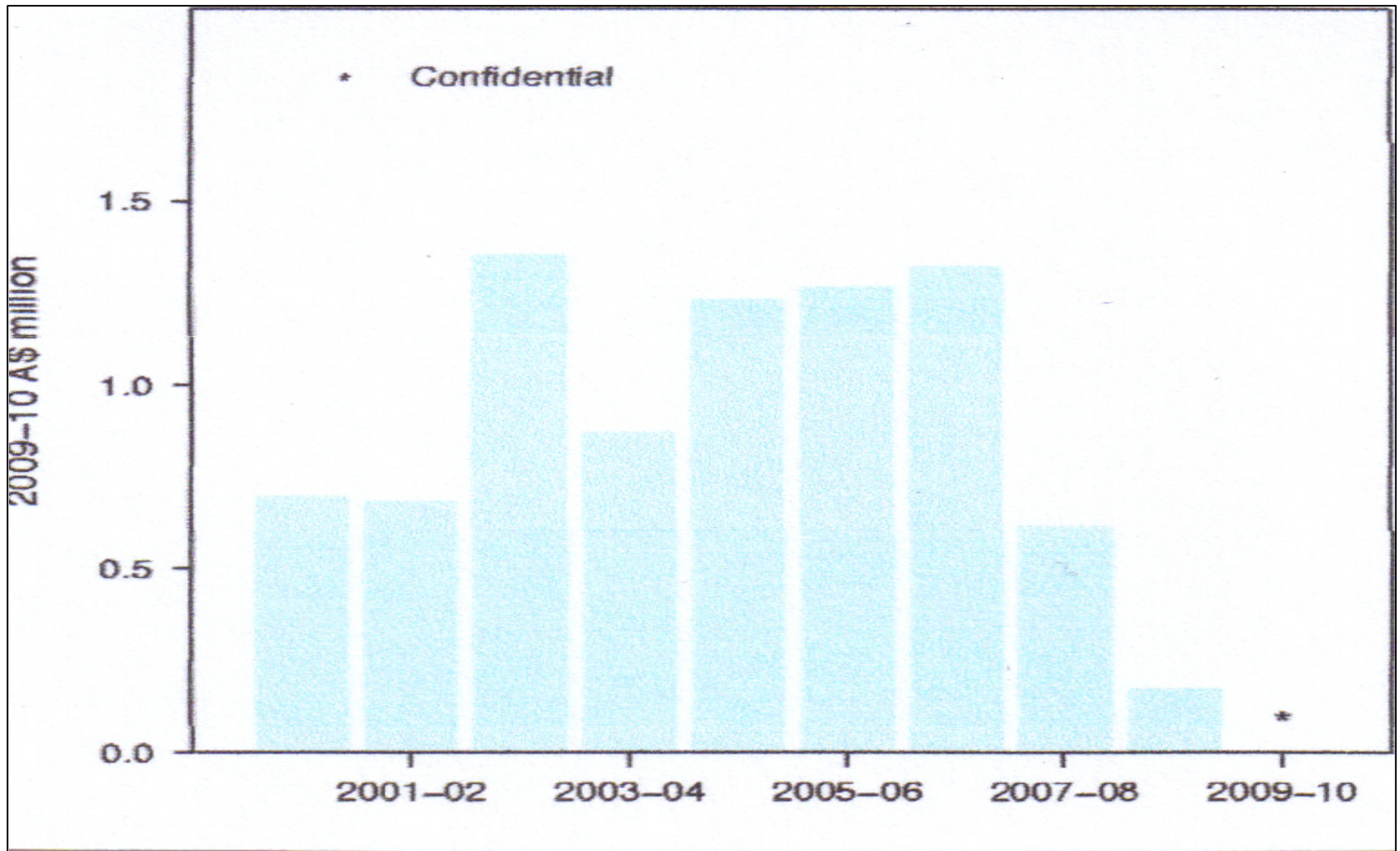
Fishing disallowed in Coral Sea Marine Reserve



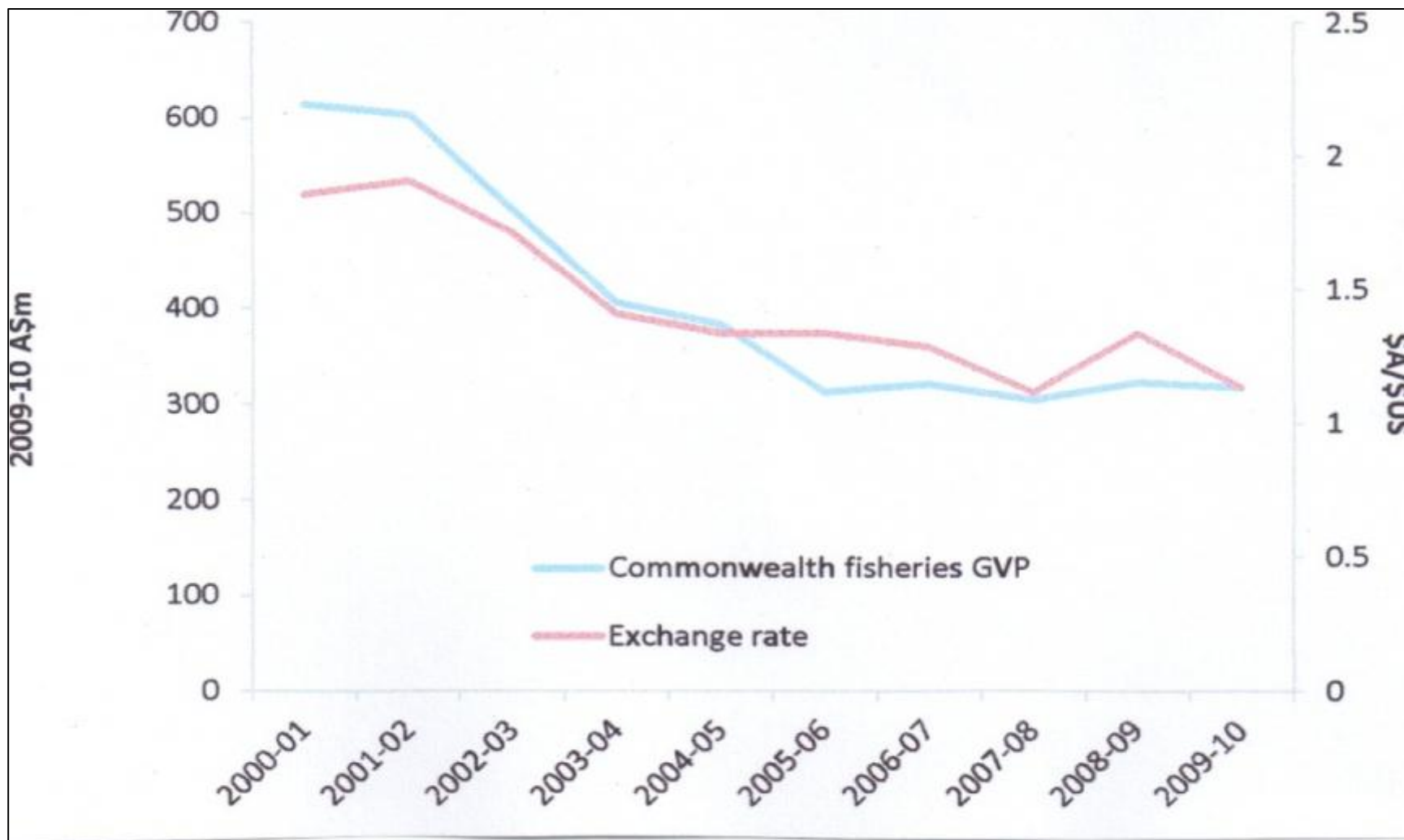
Displaced Commonwealth fishing GVP

Jurisdiction/ Fishery	Average 2001-2010			2009-2010	
Commonwealth	Tonnes catch displaced average of multiple years	Percentage displaced	GVP displaced \$'000	Tonnes displaced 2009-2010 year	Estimate of GVP displaced \$'000 2009-2010 year
Demersal longline	39.6	97.6	118	4	17
Demersal trawl	27.4	98.2	146.1		
Handline/rod plus Trap & troll	12.1	?	71.1		
Eastern Tuna and Billfish	627.4	9.6	3,566.10	417	2,370

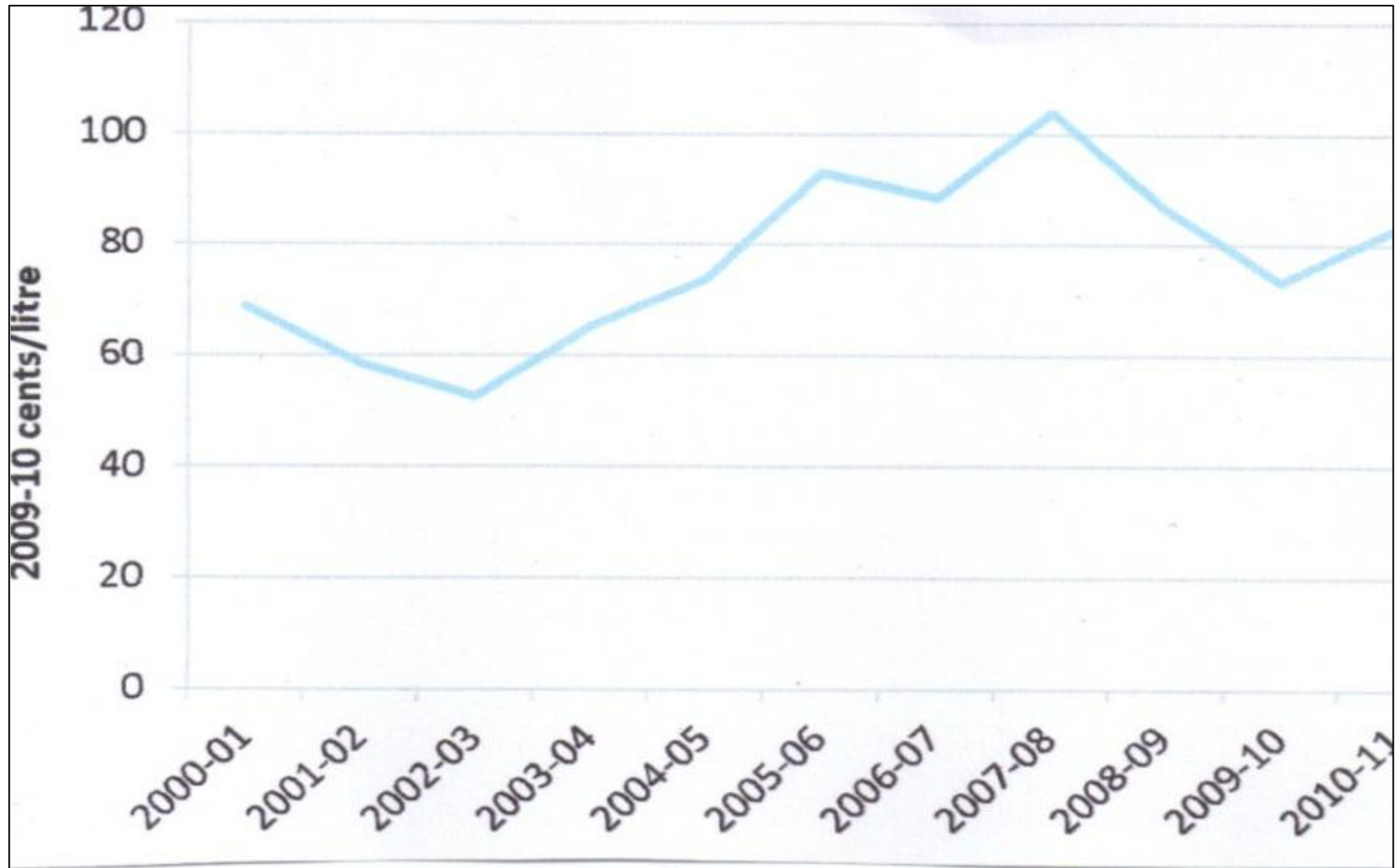
Collapse of the Coral Sea Fishery



Exchange rate and GVP



Diesel price



Displaced Queensland fishing GVP

Jurisdiction/ Fishery	Average 2000-2010			2000-2010 year	
	Tonnes catch displaced average of multiple years	% displaced	GVP displaced \$'000	Tonnes displaced 2009-2010 year	Estimate of GVP displaced \$'000 2009-2010 year
Queensland					
Deep Water Fin Fish Fishery	13.4	25.9	98.4	12.95	95

Removal of fishery effort

How many licences in each fishery, are there ITQ's?

How many **active** and used and unused quota and licences?


How many need to be removed,
active and non-active?



Commonwealth Fisheries Adjustment Policy

The removal of fisheries will take place under the Commonwealth's Fisheries Adjustment Policy, taking account of:

- impacts on fishing businesses;
- flow-on impacts;
- personal and community impacts;
- business plans and future investments.



Displaced GVP by the final proposed Coral Sea Marine Reserve by Port

Port	\$'000
Brisbane	107.4
Bundaberg	102.5
Cairns	2350.1
Gladstone	79.4
Hobart	59.2
Mackay	53.4
Mooloolaba	1272.5
Total	4154



CASE STUDY 3

ECONOMIC IMPACTS OF PORT DEVELOPMENT

THE CASE OF GLADSTONE

LNG vessels to access Gladstone Harbour



Dredging harbour for vessel access



EIS and State and Commonwealth approvals required for development


Steps

- Environmental impact statement (EIS) by proponent
- Co-ordinator General's report – State government
- Commonwealth assessment – EPBC Act 1999 and GBRMP



Coordinator General

- “GPC [Gladstone Ports Corporation] must mitigate **all reasonable financial losses** to existing commercial fishing operators attributable to the maritime development in the Western Basin of the Port of Gladstone. This is to cover **temporary and permanent loss** of access to fishing areas and marine fish habitat”.



Socio-economic impacts of Gladstone Harbour development

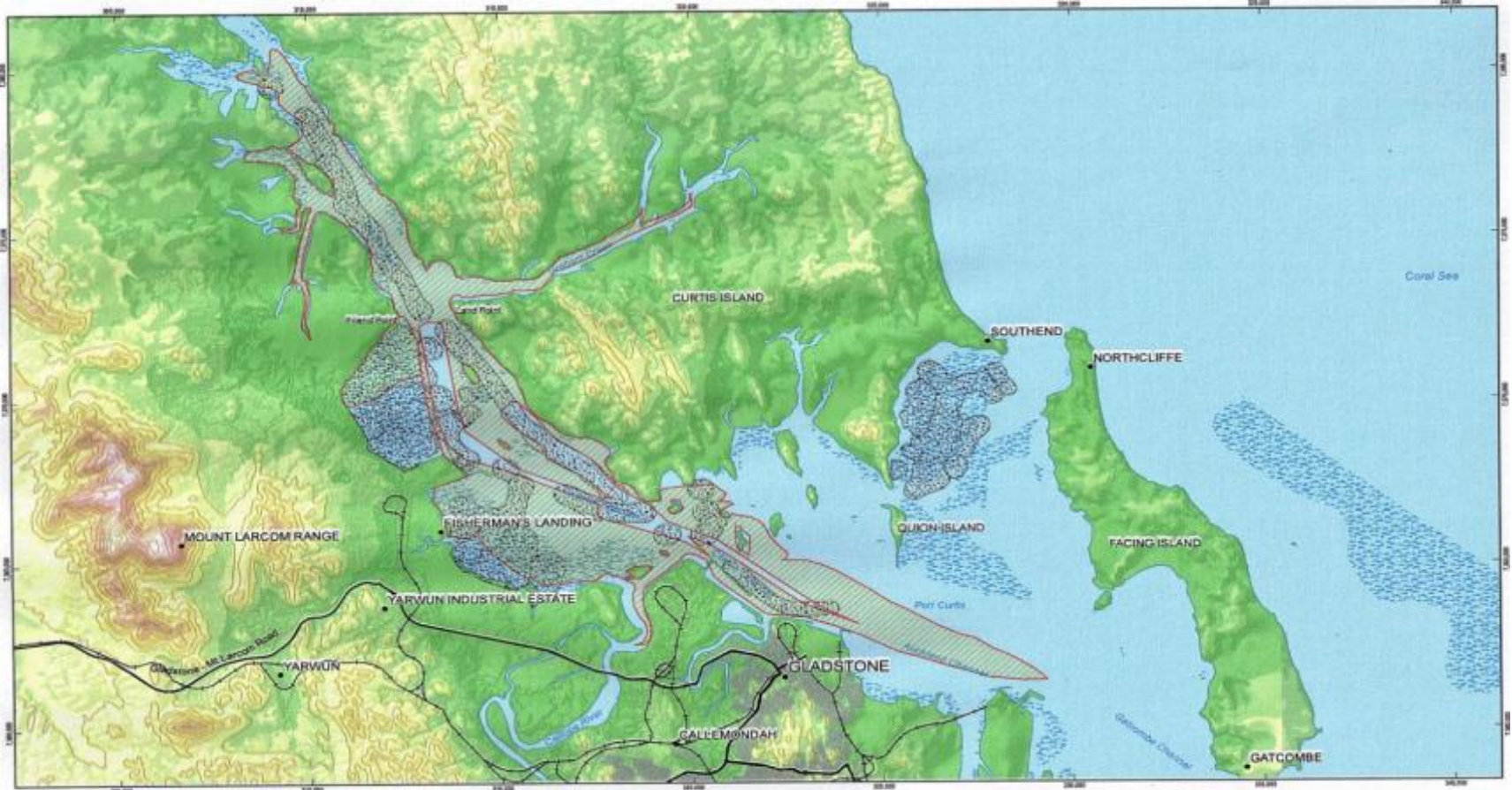
EIS and Coordinator General

- Dredging has minor impacts
- 6 fishing businesses affected
- No impact on land-based dependent businesses

Research

- Dredging has major impacts
- 65 fishing businesses impacted, present value of GVP approx \$40 million
- Severe impact Gladstone wholesalers

Plumes resulting from dredging



1:100,000 (M-A3)
Kilometres
Map Projection: Universal Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia
Grid: Map Grid of Australia 1984, Zone 58

LEGEND
Blue stippled area: Seagrass Distribution (DPI 2002 to 2006)
Blue hatched area: Seagrass, Algae and Other Benthic Habitat (GHD 2006)
Red hatched area: Indirect Impact
Red outline: Area of habitat north of Western Basin Residual area

GHD GPB

Port of Gladstone
 Western Basin Dredging and Disposal Project
 Estimated Indirect Impact Footprint

Job Number: 42-15391
 Revision: A
 Date: 30 Aug 2008

Figure 9-31

G:\42-15391\GIS\PortofGladstone\BasinDredging\42-15391_009_332_01_01.mxd
 This map contains data that is derived from State Government open Copyright. Please refer to 2008 Appropriation for the details and Copyright details.
 © 2008. This document is not and shall remain the property of GHD. The document may only be used for the purpose for which it was prepared. Unauthorised use of this document in any way is prohibited.
 GHD Pty Ltd and Data Custodians make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD Pty Ltd and Data Custodians accept no liability of any kind whatsoever in contract, tort or otherwise for any damages, losses, damages under cover (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

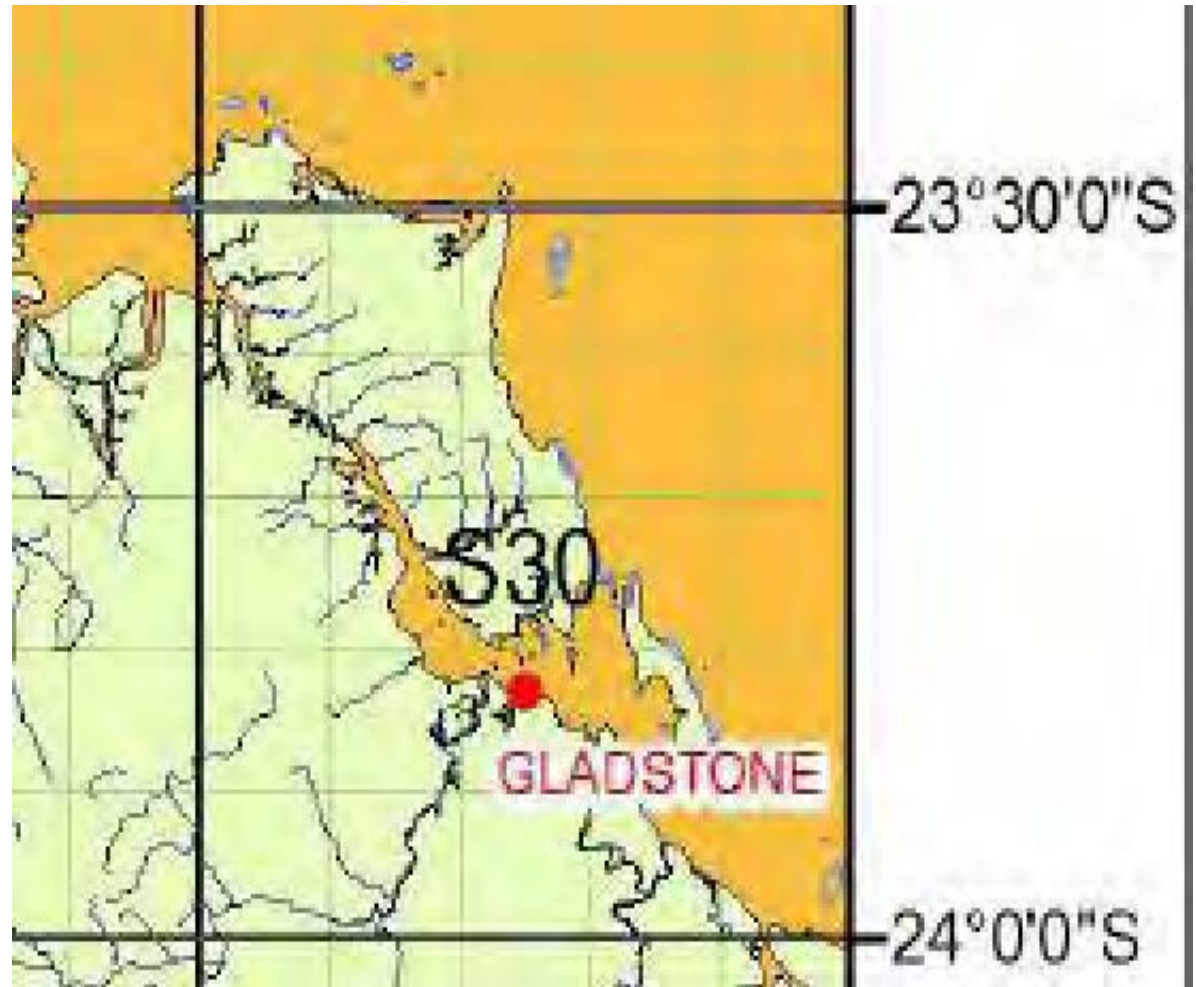
Level 4 201 Chevalier Street Brisbane QLD 4000 Australia T +61 7 2316 2000 F +61 7 2316 9355 enquiry@ghd.com www.ghd.com

Prawn trawling areas in Gladstone harbour



Commercial Fishing Logbook Data

In 2005 there were 65 commercial fishers operating in Grid S30, with a commercial catch in that year of gross value \$2,827,000 i.e. an average of \$43,500 per fisher.

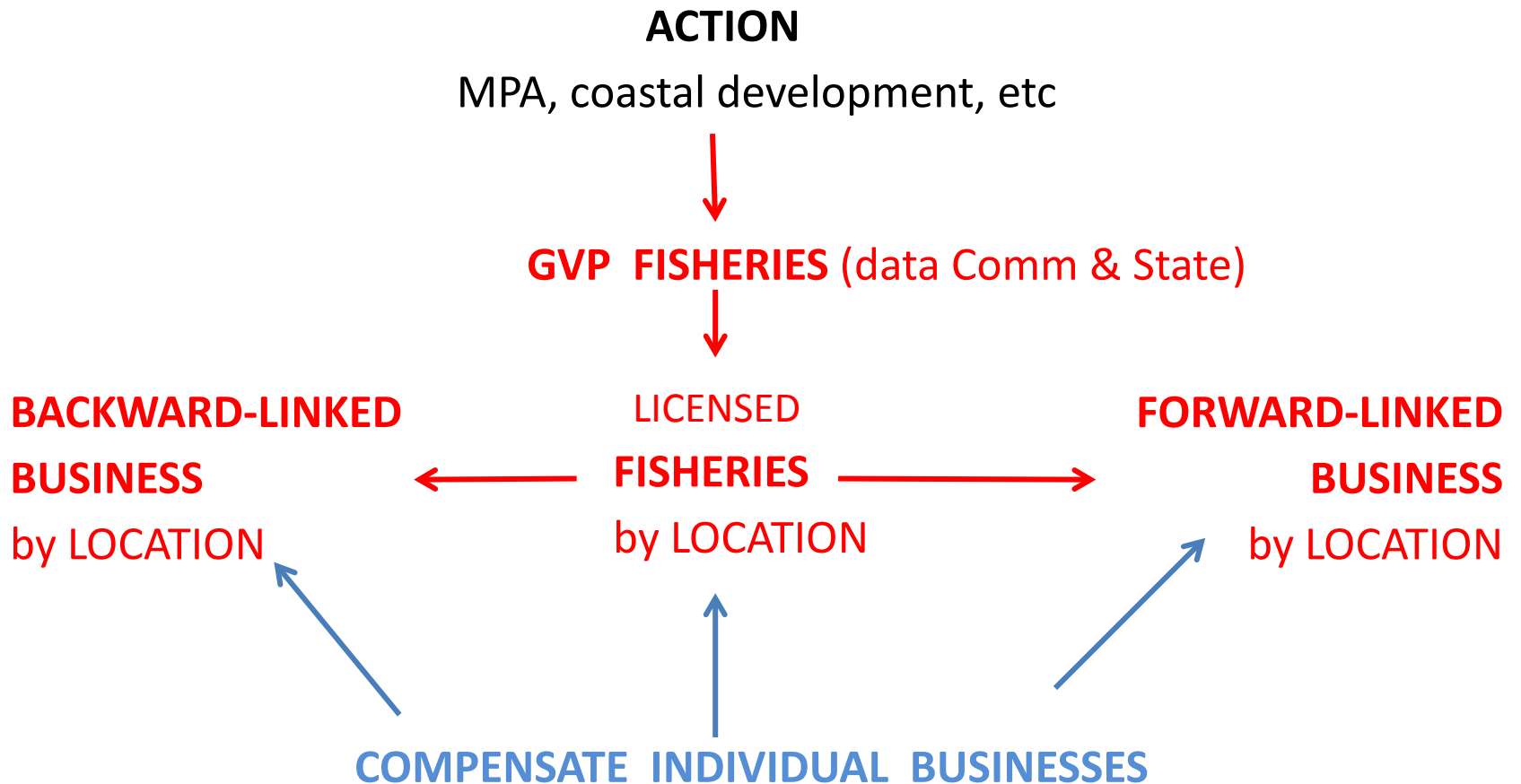




Will economic justice be done?

“...a new compensation offer will be put to seafood businesses affected by port development in Gladstone.”

Key message – process for compo



Thought provokers

Why should fishers and related businesses be compensated for losses when they are exploiting a public resource?

Should there be a difference in applying compensation policy between cutting a quota and introducing an MPA?